

MEMORANDIUM

SUBJECT: Gulfco Marine Maintenance comments on the Final BHHRA with EPA Contractor Comments

FROM: Dipanjana Bhattacharya, USEPA Risk Assessor

TO: Gary Miller, Remedial Project Manager

DATE: February 23, 2010

This new document includes the original comments to the Draft BHHRA (August 2009), responses to the original comments from PRP contractor, my comments on the Final Draft, and EPA contractor comments on the Final Draft.

My comments are below:

1) **Response Comment #7:**

The Uncertainties Section of the Final BHHRA includes the discussion of bioaccumulation of fish. Please make a reference in the text in Section 3.1.4 addressing the fact that bioaccumulation of fish and shellfish are not the same and that added text is in the uncertainties section. The Response Letter states this but a statement in the text in Section 3.1.4 would clarify this to the reader who will not have a Response Document.

Original Comment #7. Section 3.1.4; page 17: A risk assessment that was performed for fish ingestion concluded that recreational fishing does not pose a threat due to exposure to the site; this risk assessment was accepted by EPA. The Draft BHHRA extends this assumption to shellfish ingestion. Although the exposure scenarios are comparable, the uptake and bioaccumulation by shellfish is not the same as in fish. The uncertainties with the lack of quantitative analysis of shellfish shall be discussed in the uncertainty section. Although a ban is in existence, it is not based on chemical concentrations in shellfish; therefore, it is important to properly assess shellfish concentrations and their potential risks to humans.

Response to Original Comment #7 : We agree with the comment that bioaccumulation of fish and shellfish are not the same. Shellfish (crabs) were quantitatively analyzed during the tissue study and evaluated in the risk assessment. Blue crabs or Callinectes sapidus were selected and approved by EPA as the representative shellfish for quantitative evaluation in the study. Text clarifying these points has been added to the BHHRA

2) **Response Comment #8:**

The Response Document states that the “off-site evaluation of both fugitive dust and volatile emissions is presented in Tables 16 and 17 and discussed in Section 2.21.” Since the comment was referring to Section 3.2, please make a reference to the tables in the text in this section.

Original Comment #8. Section 3.2; page 18: The BHHRA states that “Given the frequently saturated nature of the wetlands sediment and the abundant vegetation on the uplands portion of the North Area, fugitive dust generation and VOC emissions, and off-site impacts were not considered.” Abundant vegetation on the upland portion of the North area is not a competent existing physical control for preventing emissions to ambient air. The BHHRA shall be revised to evaluate the North area, in addition to the South Area, for off-site dust and VOC emissions.

Response to Original Comment #8: An evaluation of on-site fugitive dust generation for the North Area soils has been added to the Final BHHRA (it was evaluated for the South Area soils in the Draft BHHRA). VOC emissions from on-site soil have been evaluated for both the North and South Area soils. The off-site evaluation of both fugitive dust and volatile emissions is presented in Tables 16 and 17 and discussed in Section 2.2.1.

3) **Response Comment #9:**

The Response Document refers to additions in the Tables 23 and 24. Please make a reference to these tables in Section 3.4.2 since this the original comment #9 was made to clarify the addition of PCLs.

Original Comment #9. Section 3.4.2; page 25: This section of the BHHRA indicates that TCEQ residential soil-to-air PCLs (30-acre) were used to evaluate off-site residential exposure to vapor and particulate from the South area. However, the actual PCLs used in Tables 23 and 24 for this evaluation (^{Air}Soil_{Inh-v} PCLs) only consider vapor, and do not include contributions from particulate. TRRP ^{Air}Soil_{Inh-VP} PCLs apply to commercial/industrial surface soil [0-5 feet below ground surface (bgs)], while ^{Air}Soil_{Inh-v} PCLs apply to subsurface soils. There are more ^{Air}Soil_{Inh-VP} PCLs than ^{Air}Soil_{Inh-v} PCLs (e.g., metals), and residential ^{Air}Soil_{Inh-VP} PCLs are available in Table 6 at www.tceq.state.tx.us/remediation/trrp/trrppcls.html. The SLERA shall include the ^{Air}Soil_{Inh-VP} PCLs to evaluate the inhalation pathway.

Response to Original Comment #9: ^{Air}Soil_{Inh-VP} PCLs have been added to Tables 23 and 24. To help clarify the risk assessment, however, these tables were moved to the screening section, Section 2.2.1, where the pathway is discussed in greater detail.

4) **Response Comment #10:**

The response comment states that “When the project team began, RSLs were not available and, therefore, were not used in the screening process or as a resource for toxicity information.” Please write this statement into the text in Section 4.4 since the original comment #10 required this clarification.

Original Comment #10. Section 4.4; page 29: The BHHRA shall include clarification regarding why the Regional Screening Levels (RSLs) were not used.

Response to Original Comment #10: Toxicity information from the Region 6 Human Health Medium-Specific Screening Levels (EPA, 2004a) was used to obtain toxicity information if it was not available on IRIS. When the project began, RSLs were not available and, therefore, were not used in the screening process or as a resource for toxicity information. Section 4.4 has been clarified to better characterize the sources of toxicity data used in the risk assessment.

5) Response Comment #11:

The original comment referred to risk characterization calculations. The response comment states “We have added Table 20 and text in Sections 5.3 and 5.4, as well as the uncertainty section (section 6.0), to clarify this explanation.” The Final BHHRA does not include any text in the uncertainty section specifically regarding risk characterization calculations.

Original Comment #11. Sections 5.3 and 5.4, page 32: A full risk characterization calculation was not performed for the contact recreational and off-site residential scenarios. Instead, a ratio comparison to their respective PCLs was performed. Without calculating an actual potential risk, it is not possible to assess total risk for these receptors across media. Risk characterization calculations shall be performed for all potentially complete pathways.

Response to Original Comment #11: Per EPA guidance (EPA, 1989), it is unnecessary to calculate risks for compounds that screen out during the screening process as they provide a de minimus risk. If all compounds in a given media screen out, which is the case for off-site residential and contact recreational scenarios, it follows based on EPA guidance (EPA, 1989) that these compounds and media are not included in the quantitative risk assessment, which is why they were not quantitatively evaluated in the risk assessment nor were risks from these pathways added to other pathway risks. We have added Table 20 and text in Sections 5.3 and 5.4, as well as the uncertainty section (Section 6.0), to clarify this explanation.

EPA CONTRACTOR’S TECHNICAL REVIEW COMMENTS

1. List of Acronyms, pages vi and vii

Some acronyms used in the report, notably QC, were not included in the list of acronyms. QC should be added to the list of acronyms.

2. Section 2.2.2, page 14, paragraph 1

The last paragraph should be edited to state: “COIs were retained...if they were measured in Site media at concentrations that were statistically different (higher) than background soils.”

3. Section 2.2.3, page 15, Bullet 1

This sentence should read: “Measured in more than five percent of the samples for a given medium.”

4. Sections 3.2 and 3.3, Pages 19-21

The text should address the effect of climate and temperature variations on volatilization and fugitive dust generation.

5. Section 3.4.1, page 23

This section discusses the ProUCL program as used to determine the exposure point concentration. The text states that the program was used to calculate a distribution-free 95%UCL. However, the program was not used to calculate a distribution-free UCL. The program calculated several UCLs for various distribution fits of the data and recommended the UCL for the best fit distribution. The text should be revised to reflect the correct statistical methodologies employed.